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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,586	09/15/2003	Masashi Horiuchi	030673-167	8042
21839	7590	09/17/2004	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P			MILLER, TAKISHA S	
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ALEXANDRIA, VA 22313-1404			PAPER NUMBER	
			2855	

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/661,586

**Applicant(s)**

HORIUCHI, MASASHI

**Examiner**

Takisha Miller

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 09152003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Melrose (5,172,774).

- a. With respect to claims 1 and 7, Melrose teaches a torque detection device comprising at least one strain gauge unit (19) mounted on a surface of a flexible external gear (16), a bridge circuit constituted by the strain gauge unit (19)(Col.3, lines 10-12), and a signal processing circuit for detecting the torque on the basis of output signals from the bridge circuit (Col. 3, lines 22-28), wherein the strain gauge unit (19) has a strain gauge pattern including at least one detection segment made from resistance wire, and wherein the detection segment is formed to have a prescribed shape of a grid pattern formed by portions of the resistance wire arranged at regular intervals (Figs. 2,3).

- b. With respect to claim 5, Melrose teaches a torque detection device wherein the strain gauge pattern of the strain gauge unit (19) includes four successive detection segments having circular arc shapes of 90° (Fig.2).

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melrose (5,172,774) in view of Badcock (4,776,414).

a. With respect to claim 2, Melrose teaches a torque detection device comprising a detection segment but lacks teaching wherein the detection segment has a circular arc shape of 360°. Badcock teaches a detection segment having a circular arc shape of 360° (Fig.4). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Melrose to include a detection segment having a circular arc as taught by Badcock in order to more effectively measure strain by properly fitting on the circular diaphragm.

b. With respect to claims 3,4 and 6, Melrose teaches a torque detection device comprising a strain gauge unit (19) with a first detection segment but lacks teaching a second strain gauge unit formed with a second detection segment having a circular arc shape of 360° and the first and second strain gauge units being superposed together so that said portions of the respective grid patterns thereof intersect perpendicularly with each other. Badcock teaches a second strain gauge unit (30,31) formed with a second detection segment having a circular arc shape of 360° (Fig.4) and the first (32,33) and second (30,31) strain gauge units being superposed together so that said portions of the respective grid patterns thereof intersect perpendicularly with each other (Fig.4). It would have been obvious to one of ordinary skill in the art at the time of the invention to

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modify Melrose to include a second strain gauge unit in order to more effectively measure strain.


***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (6,427,307); (4,993,267); (US 2004/0159161); (5,386,724); (5,548,092); (5,065,631); (5,313,828); (3,772,628); (6,269,702); (4,089,216); (6,170,340); (6,000,289) teach torque detection devices or strain gauge patterns.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Takisha Miller whose telephone number is (571) 272-2184. The examiner can normally be reached on Monday - Friday (7:00 am - 3:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
EDWARD LEFKOWITZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800